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ABSTRACT

This paper examines the School Culture Survey developed by J. Saphier and M. King (1985) and its association with school and teacher characteristics. The research was conducted in the context of a Department of Education Fund for Innovation in Education grant to a large school district in the western United States. Participants were 27 principals and 425 teachers who taught grades kindergarten through 12. Rasch and factor analyses indicated that three subscales comprise the School Culture Survey. They are: (1) Teacher Professionalism and Goal Setting; (2) Administrator Professional Treatment of Teachers; and (3) Teacher Collaboration. Results suggest that administrators perceived that they treated teachers more professionally than teachers thought the administrators did. Teachers with the most positive attitudes were from high or low socioeconomic status (SES) schools, while teachers with the least positive attitudes were from middle SES schools. Teachers with single-age, rather than multiage, classes scored significantly higher on subscale 1, Teacher Professionalism and Goal Setting. Age predicted responses on subscale 3, Teacher Collaboration. Satisfaction with position was a significant predictor for all three subscales. Teacher efficacy, conceptual complexity, and empowerment were significantly correlated with one or more of the three subscales, but at a low level. (Contains 1 figure, 9 tables, and 53 references.) (Author/SLD)

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Factor and Rasch Analysis of the *School Culture Survey*

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Factor and Rasch Analysis of the *School Culture Survey*

Abstract

This paper examines the *School Culture Survey* (Saphier & King, 1985) and its association with school and teacher characteristics. The research was conducted in the context of a U. S. Department of Education Fund for Innovation in Education grant to a large school district in the western United States. Subjects were 425 teachers who taught grades K-12. Rasch and factor analyses indicate that three subscales comprise the *School Culture Survey* (Saphier & King, 1985). They are: I) Teacher Professionalism and Goal Setting, II) Administrator Professional Treatment of Teachers, and III) Teacher Collaboration. Results suggest that both administrators and specialists perceive that they treat teachers more professionally than teachers do ($F = 3.66$, $p < .03$). Teachers with the most positive attitudes were from high or low socioeconomic status schools (SES), while teachers with the least positive attitudes were from middle SES schools. Teachers with single-age rather than multiage classes scored significantly higher on Subscale I, Teacher Professionalism and Goal Setting. Age predicted Subscale III, Teacher Collaboration. Satisfaction with position was a significant predictor for all three subscales. Teacher efficacy, conceptual complexity, and empowerment were significantly correlated with one or more of the three subscales, but at a low level.

Factor and Rasch Analysis of the *School Culture Survey*

Introduction

School culture may be described as the common set of beliefs, values, and practices held by members of the school community about "the way things are done" in a given school. The culture of a school is shaped by peoples' unconscious assumptions or taken-for-granted beliefs about school vision, curriculum, instruction, evaluation and organizational structure. People integrate their conceptions of these cultural elements to create meaning and consistency for themselves. Because culture includes "deep patterns of values, beliefs and traditions that have formed over the course of the school's history," (Deal & Peterson, 1990, p. 38) it serves as the cornerstone for school improvement. Numerous researchers have discussed the importance of school culture in school improvement (Goodlad, 1984; Hopkins, 1990; Little, 1982; Purkey & Smith, 1983).

Purkey and Smith (1982) argued that an academically effective school is distinguished by its culture: a structure, process and climate of values and norms that channel staff and students in the direction of successful teaching and learning. Students are more motivated to learn in schools where strong cultures exist, and motivation has been linked to student achievement (Fryans & Maehr, 1990; Purkey, 1986; Thacker & McInerney, 1992). Bryck and Driscoll (1988) determined that school cultures characterized by shared values, a core curriculum, and high levels of extracurricular involvement were not only predictive of improved academic performance by students, but also evidenced improved teacher job satisfaction, morale, and attendance. School cultures stressing accomplishment, recognition, and affiliation are related to teacher satisfaction

and commitment, according to Anderman et al. (1991). Cheng (1993) linked stronger school cultures with more highly motivated teachers. Buck et al. (1992) found that teachers' behaviors were influenced by their perceptions of their schools' dominant values, beliefs and goals.

Barth (1984) argued that the nature of the relationships among the adults working in a school has more to do with the school's quality and character and with student accomplishment than any other factor. Purkey (1986) noted that it is easier to change organizational structure and culture than it is to "fix" the people within schools. Collaborative structures encourage lasting school improvement (Fullan, 1992). Teachers with access to teacher networks, enriched professional roles, and collegial work feel more efficacious in gaining the knowledge they need to meet student needs and are more likely to view themselves as agents, rather than targets of reform (LH Research, 1993). Little (1982) identified four critical practices in collaborative schools: a) teachers are frequently engaged in talk about teaching, b) teachers observe and critique each other, c) teachers work together to develop curriculum, and d) teachers teach each other pedagogy. Little (1985) later identified six principles impacting successful, non-threatening relationships between teachers acting as advisors and other teachers: sharing common language, focusing on key concerns, gathering hard evidence, interacting fully, acting predictably, and exhibiting reciprocal respect.

Rosenholtz (1989a; 1989b) found that in schools where collegiality was the norm not only did students perform better, but teachers were more creative, worked longer hours, and had higher morale. She also found that healthy schools are also high consensus schools and that teacher concern for student academic progress is the focus that prompts teachers to work together, share instructional strategies and engage in continuous improvement efforts. Her work

corroborated the findings from the Rand study on school change (Berman & McLaughlin, 1974) and the work of Ashton and Webb (1986) regarding the relationship between a teacher's feelings of efficacy and student achievement. The benefits of collaboration include improved instruction (Leggett & Hoyle, 1987; Little, 1982; Smith, 1986; 1987), a decrease in the sense of isolation (Munro & Elliott, 1987), and the transfer of training to the job (Joyce & Showers, 1988).

Just as Peters and Waterman (1982) found that America's best run corporations were both "tightly coupled" and "loosely coupled," so too are effective schools. A strong culture and clear sense of purpose defines the basic thrust and, at the same time, gives a great deal of freedom to teachers and others regarding how core values are to be honored and realized. Sergiovanni (1984) noted that a strong culture combined with autonomy for teachers to pursue the goals of the school is most likely the determiner of effective schools. Teachers who feel enabled to succeed with students are more committed and effective than those who feel unsupported in their learning and in their practice (Haggstrom et al., 1988; McLaughlin & Talbert, 1993; Rosenholtz, 1989a, 1989b). Leaders who consciously build strong cultures, protect instruction and planning time by keeping meetings and paperwork to a minimum, and who establish reward structures that nurture adult growth and sustain the school as an attractive workplace increase teacher job satisfaction and commitment (Anderman, Belzer, & Smith, 1991).

Rosenholtz (1989a; 1989b) identified critical dimensions of culture associated with teacher commitment: rewards, task autonomy and discretion, learning opportunities, and efficacy. She found dramatic differences in the attitudes, perspectives, and performance of teachers as a direct consequence of the culture of the schools where they worked. In a later study of the effects of school organization and administrative support on teacher commitment, Rosenholtz (1990) found

that novices needed organizational support for behavioral management and boundary tasks, mid-career teachers needed autonomy and empowerment, and veteran teachers needed school support of core instructional tasks. Teachers and administrators who continually access the ever-expanding knowledge bases about teaching skills and how students learn improve their teaching and supervision. In a culture of shared learning, teachers seek to expand their repertoires of teaching methods and materials, expanding their capacity to reach students with appropriate instruction, and, as a result develop an increased sense of professionalism.

In 1985, Saphier and King identified twelve aspects of school culture that contribute to continuous school improvement. They developed an instrument to measure 19 aspects of school culture based on the school culture literature. To date, factor analysis has not been done on the *School Culture Survey* developed by Saphier and King. The purpose of this study was to provide factor and Rasch analyses of the *School Culture Survey,* and to assess the relationship between school culture, school characteristics, and teacher characteristics. This information is important in designing appropriate interventions to change school culture, and in using the *School Culture Survey.*

Method

Instruments

Information is presented using the *School Culture Survey* (Saphier & King, 1985) with teachers who were part of a project in a school district in a western state. Participants were 425 teachers and 27 principals who were participating in a three-year grant funded by the U. S. Department of Education Fund for Innovation in Education. The purpose of the grant was to

assist teachers in implementing Colorado State Content Standards through Cognitive Coaching, Nonverbal Classroom Management, and monthly Dialogue Groups. Data were gathered in Fall, 1994.

School Culture was one of the variables that was measured in the study. Other instruments used in the study included the *Teacher Efficacy Scale* (Gibson & Dembo, 1984), the *Vincenz Empowerment Scale* (Vincenz, 1990), and the *Hunt Paragraph Completion Method* (Hunt, Butler, Noy, & Rosser, 1978).

The *School Culture Survey* (Saphier & King, 1985) is a twenty-nine item self-report scale. The response scale is 1 to 5, with 1 being "Almost Never," and 5 being "Almost Always." It was developed for use in seminars designed to improve school culture (Personal communication, Saphier, 1994). Until this study, it had not been used in empirical research, nor had it been factor analyzed. In its original form, the *School Culture Survey* consisted of nineteen subscales. They were 1) Collegiality, 2) Experimentation, 3) High Expectations, 4) Reaching Out To Knowledge, 5) Appreciation & Recognition, 6) Professional Respect, 7) Caring, Celebration, and Humor, 8) Protecting What's Important, 9) Traditions, 10) Tangible Support, 11) Decision-Making, 12) Honest, Open Communication, 13) Initiative, 14) Collective Responsibility, 15) Efficaciousness, 16) Continuous Improvement and Non-Defensiveness, 17) Reflective Environment, 18) Goals, and 19) Core Values. It was developed based on the relevant school culture literature.

Another instrument used in this study was the *Teacher Efficacy Scale* (Gibson & Dembo, 1984). This scale measures Personal Teaching Efficacy (I can make a difference, or self-efficacy), and Teaching Efficacy (Teachers can make a difference, or outcome expectancy). In developing the instrument, Gibson and Dembo (1984) found a reliability of .78 for Personal Teaching

Efficacy, and a reliability of .75 for Teaching Efficacy. For the data analyzed in this study, reliabilities were .76 and .67, respectively.

The *Vincenz Empowerment Scale* (Vincenz, 1990) consists of the subscales of 1) Potency, 2) Independence, 3) Relatedness, 4) Motivation, 5) Values, and 6) Joy of Life. It is designed to measure overall personal empowerment and effective involvement with one's environment. Original development of the instrument yielded a Cronbach's alpha of .93 (Vincenz, 1990), with 74 items comprising the original instrument.

The *Paragraph Completion Method* (Hunt, Butler, Noy, & Rosser, 1978) measures conceptual level, and has been widely used with educators. A rich body of literature suggests that teachers with higher conceptual levels provide benefits for students (Allen, 1988; Calhoun, 1985; Flavell, 1968; Gilliam, 1990; Gordon, 1976; Harvey, 1967; Harvey, White, Prather, Alter & Hoffmeister, 1966; Hunt & Joyce, 1967; Joyce, Lamb & Sibol, 1966; Murphy & Brown, 1970; Rathbone & Harootunian, 1971; Smith, 1980; Sprinthall & Theis-Sprinthall, 1983; Theis-Sprinthall, 1980; Witherell & Erickson, 1978; Yarger, 1978). Questions that are included in the instrument are as follows: 1) What I think about rules . . . , 2) When I am criticized . . . , 3) When someone does not agree with me . . . , 4) When I am not sure . . . , and 5) When I am told what to do . . . . Open-ended responses must be scored by trained raters. This instrument was scored by Mary Rosser, one of the developers of the instrument.

All instruments were administered to the participants in a group setting. A separate information sheet asked for teacher gender, age, ethnicity, subject and level taught, as well as other relevant demographic information. Analyses employed regressions for interval variables and multivariate analyses of variances for categorical independent variables.

Sample

Teacher participants were primarily female (89.9%) and Caucasian (93.4%) (Table 1). The majority taught at the elementary level (83%), with 11.3% at the middle school level, and 5.7% at the high school level. Participants were fairly evenly divided among the socioeconomic status groups (SES) of the schools in which they taught, with 31.4% teaching at low SES schools, 34.5% teaching at middle SES schools, and 34% teaching at high socioeconomic status levels. Thirty-seven percent had a Bachelor's degree, and sixty-three percent held a Master's degree or above. About one-third of the teachers taught in multi-age classrooms (32.7%).

Table 1 here

The average age of the participants was 43.25 years (SD=8.38), and they averaged 13.37 years of teaching experience (SD=8.72). They had been at their present school an average of 5.56 years (SD=6.05), and had taught in the school district an average of 11.11 years (SD=8.28). They had taken an average of 4.14 semester hours in the previous year (SD=5.89), and had taken an average of 1.62 inservice credits in the previous year (SD-2.11). They earned their most recent degree an average of 12.88 years ago (SD=8.67).

Participant satisfaction with their present position was 4.36 on a 5-point scale (SD=.80), and their satisfaction with teaching as a career was 4.36 on a 5-point scale (SD=.81). When asked about their satisfaction with Standards-Based Education, their average response was 4.07 on a 5-point scale (SD=.80), and they reported an average of 10.79 behavior problem students each.

Administrators who participated in the study were also primarily female (69.7%) Caucasians (93.5%). The majority served at the elementary level (72.4%), with 6.9% at the middle school level, and 20.7% at the senior high school level. In contrast with the teachers, the majority were located at high socioeconomic schools (52.6%), with 36.8% at middle SES schools, and 10.5% at low SES schools. All administrators had a Master's degree or above.

Table 2 here

The administrators had an average age of 46.36 years (SD=5.58), had taught an average of 17.12 years (SD=7.45), had been in their present positions an average of 3.96 years (SD=4.40), had been in their present school an average of 3.22 years (SD=3.77), and had been in the school district an average of 13.17 years (SD=7.03). They had taken an average of 7.28 semester hours in the last year (SD=10.50) and an average of 3.22 inservice credits (SD=2.09) in the last year. Their most recent degree was awarded 12.79 years earlier (SD=8.27). They indicated that they were fairly satisfied with their positions, averaging 4.58 on a 5-point scale (SD=.50). Satisfaction with teaching as a career was 4.46 on a 5-point scale (SD=.72), and their attitude toward Standards-Based Education was 4.17 on a 5-point scale (SD=.78).

Results

Scale Structure

Scale structure was determined by integrating the results of factor and Rasch analyses. A principal components analysis with varimax rotation was used to determine the factor structure.

Items were interpreted as reflecting a factor if loadings were .4 or higher. Results of the analysis suggested that item intercorrelations were explained by three factors. Eigenvalues for the first three factors were 11.1, 2.3, and 1.4, respectively, for explanation of 51.1% of the variance. Table 6 provides loadings of items on the three factors. Three items failed to load above .4 on the first three factors and were dropped (items 12, 14, and 23). All remaining items were analyzed using a Rasch model rating scale program (BIGSTEPS: Linacre & Wright, 1994). The Rasch model requires items to reflect a single latent dimension. However, item fit values can be used to identify item subsets forming distinct dimensions (Green, 1996). Rasch analysis resulted in definition of the same three subscales as in the factor analysis. One item (item 7) misfit in the Rasch analysis and so was dropped. Two other items that crossloaded in the factor analysis had adequate fit in the Rasch analysis and so were retained as viable trait indicators. Item fit values are scaled to a mean of 1.0; fit values under .6 and above 1.4 are more unusual than fit values between .7 and 1.3. Fit values are dependent on the configuration of the data and so vary from sample to sample. However, the finding of similar scale structures in the factor and Rasch analyses suggest the identified subscales to be strong, a finding further supported by the high internal consistency reliabilities. Table 3 provides the fit values for each of the three subscales, logit difficulty values, and subscale reliabilities. Logit difficulty provides an interval rescaling of the item means, with negative values indicating items that are easy to agree with and positive logit values indicating items that are difficult to agree with. An examination of the item logit difficulty values in Table 3 suggests that for each subscale items are quite tightly grouped, the range of logit values extending from -1.28 to +1.06. In fact, while attitudes of people in this sample were reasonably well-measured, the addition of items at both extremes would allow greater precision in

measurement across a broader range of opinion. Items tended to be easy for people in this sample to agree with. This is shown by Figure 1 which displays the distribution of persons for subscale 1 in tandem with subscale 1 items. Items are clustered together and are targeted on the sample but would provide greater precision if they covered a broader range.

Table 3 and Figure 1 here

Items sorted into three factors. They included Subscale 1) Teacher Professionalism and Goal Setting (10 items), Subscale 2) Professional Treatment by Administration (8 items), and Subscale 3) Teacher Collaboration (7 items). Alpha reliability of Goal Setting and Professionalism Among Teachers was .91, reliability for Professional Treatment by Administration was .86, and reliability for Collaboration was .81.

Descriptive Statistics for *School Culture Survey*

Tables 4 and 5 present descriptive statistics for the three *School Culture Survey* (Saphier & King, 1985) subscales and correlations among them. All three subscales are normally distributed, though somewhat leptokurtic, and all were significantly positively correlated.

Tables 4 and 5 here

Table 6 presents correlations between *School Culture Survey* subscales and teacher efficacy, empowerment, and conceptual level. All three subscales were significantly correlated with personal teaching efficacy as well as 5 of 6 empowerment subscales. Subscale II,

Administrator Professional Treatment of Teachers, was significantly correlated with Teaching Efficacy. Subscale III, Teacher Collaboration, was significantly correlated with the "Disagree" question of the Hunt Paragraph Completion Method. All correlations, however, were low in magnitude.

Table 6 here

School Organization Variables

Independent variables were grouped as school/organization and personal background variables. Personal background variables were further grouped as experience variables, satisfaction variables, and education variables. Table 7 provides multivariate analyses of variance for all three subscales of the *School Culture Survey* and school organization variables.

Significant differences were found between teachers, administrators, and specialists on Subscale 2, "Professional Treatment by Administration" ($F = 3.66$, $p < .03$), with administrators scoring the highest, support staff the next highest, and teachers the lowest (Table 7). Significant differences were found for all three subscales among schools with different socioeconomic status (SES) (Subscale 1, $F = 9.52$, $p < .001$; Subscale 2, $F = 8.68$, $p < .001$; Subscale 3, $F = 1.57$, $p < .02$). Teachers with the most positive attitudes were from high or low socioeconomic status schools (SES), while teachers with the least positive attitudes were from middle SES schools.

Table 7 here

Teachers with single-age rather than multiage classes scored significantly higher on Subscale I, Teacher Professionalism and Goal Setting ($F = 6.81$, $p < .01$), and higher on the other two subscales, but those differences were not significant. A significant multivariate effect was found by level of school, with all three univariate effects significant at $p < .05$. Middle level teachers overall had the most positive attitudes, and senior high teachers the least. No significant multivariate effects were found by highest degree, ethnicity, subject area taught, or gender.

Personal Background Variables.

Table 8 provides the multiple regression for experience, satisfaction, and education variables. Years of experience, years in position, years at school, and years in district did not predict school culture. Age was significant for Subscale III, Teacher Collaboration ($p = .05$). Satisfaction with position was a significant predictor for all three subscales (Subscale I, $B = .47$, $p < .0001$; Subscale 2, $B = .59$, $p < .0001$; Subscale III, $B = .28$, $p < .002$). No differences were found by year since most recent degree was awarded, number of semester hours taken in the last year, or number of inservice credits taken in the last year.

Table 8 here

Outcome Variables

Personal Teaching Efficacy is predictive of all three subscales of the *School Culture Survey* (Table 9). Teaching Efficacy predicts scores on Subscale II, Professional Treatment by Administration. Subscale III, Teacher Collaboration, is predicted by the "D" subscale, "When someone does not agree with me . . . . " on the *Hunt Paragraph Completion Method* (Hunt,

Butler, Noy, & Rosser, 1978). The Relatedness subscale of the *Vincenz Empowerment Scale* (Vincenz, 1990) predicts all three subscales of the *School Culture Survey* (Saphier & King, 1985). In addition, the Values subscale of the *Vincenz Empowerment Scale* is negatively related to scores on Subscale III, Teacher Collaboration.

Table 9 here

Discussion

Scale structure was stable under two different methods of analysis, Rasch and factor analysis. Items performed remarkably well, with only one item deleted. Subscales were conceptually coherent, and internal consistency reliabilities were all high. The distribution for each subscale was approximately normal, as well. Were the measure to be revised, items addressing the lower and upper extremes of opinions would be useful since items were tightly grouped for all three subscales. This limits the range of usefulness of the scale to exclude precise measurement of groups or persons with extremely negative or positive scores. Many normative measures have this problem.

School Culture Survey subscales were all significantly correlated, though at a moderate rather than high level. This result supports the notion that subscales are measuring distinct facets of a common construct. Correlations with efficacy, empowerment, and conceptual level were significant, but all were low in magnitude, supporting the divergence of school culture variables from those personal characteristics. Further validation of the *School Culture Survey* subscales

might utilize school climate measures as representing a construct closer in meaning to school culture.

Results suggest that middle SES schools, especially senior high schools, and schools with multiage classrooms have teachers with the least positive views of school culture. Teacher professionalism was significantly lower for those schools. The amount of variance explained by those school characteristics ranged from 3 - 7%, so effects were small. The lack of differences due to personal characteristics such as gender or educational level suggest the measure to be more sensitive to school variables, as would be expected with a measure reflecting school characteristics. The single personal characteristic predictive of school culture was satisfaction with position.

One interesting result was the significant difference in perceptions of teachers versus administrators on the administrator treatment of teacher subscale. Administrators perceived treatment of teachers more favorably than did teachers, while on the other two subscales, there were no differences in perceptions.

Further research is suggested in order to refine strategies to foster a more positive school culture with those tending to score lower on school culture, and the *School Culture Survey* is recommended to document changes. Interventions targeting senior high schools, middle socioeconomic status schools, and teachers with multiage classes would bring about changes resulting in those schools being more positive places for both teachers and students.

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Table 1

Background Characteristics of Teacher Participants.

	%	$\bar{X}$	SD	n
Gender				
Male	10.1			32
Female	89.9			382
Ethnicity				
Asian/Pacific Islander	.7			3
Native American/Alaskan	.5			2
Hispanic	3.8			16
Black	1.2			5
Caucasian	93.4			397
Jewish	.2			1
Level of School				
Elementary	83.0			351
Middle School	11.3			48
Senior High	5.7			24
Socioeconomic Status of School				
Low	31.4			133
Middle	34.5			146
High	34.0			144
Highest Degree				425
Bachelor's or Bachelor's + 40	37.0			153
Master's Degree	18.4			76
Bachelor's + 60 Sem. Hrs., Including Master's	8.2			34
Bachelor's + 75 Sem. Hrs., Including Master's	13.6			56
Bachelor's + 90 Sem. Hrs., Including Master's	21.3			88
Ph.D., Ed.D., or Juris Doctor	1.5			6

Table 1 (Continued)

	%	$\bar{X}$	SD	n
Multiage Classroom				
Yes	32.7			82
No	67.3			169
Age		43.25	8.38	413
Years of Teaching Experience		13.37	8.72	416
Years in Present Position		5.60	6.43	415
Years at Present School		5.56	6.05	416
Years in School District		11.11	8.28	416
Grade Level Taught		3.93	2.64	422
Number of Semester Hours in the Last Year		4.14	5.89	416
Number of Inservice Credits in the Last Year		1.62	2.11	415
Years Ago That Most Recent Degree Was Awarded		12.88	8.67	403
Satisfaction with Position		4.36	.80	414
Satisfaction with Teaching as a Career		4.36	.81	413

Table 1 (Continued)

	%	$\bar{X}$	SD	n
Attitude Toward Standards-Based Education		4.07	.80	413
Number of Behavior Problem Students		10.79	18.23	407

Table 2

Background Characteristics of Administrator Participants

	%	$\bar{X}$	SD	n
Gender				
Male	30.3			10
Female	69.7			23
Ethnicity				
Asian/Pacific Islander	.0			0
Native American/Alaskan	.0			0
Hispanic	6.5			2
Black	.0			0
Caucasian	93.5			29
Level of School				
Elementary	72.4			21
Middle School	6.9			2
Senior High	20.7			6
Socioeconomic Status of School				
Low	10.5			2
Middle	36.8			7
High	52.6			10
Highest Degree				
Bachelor's or Bachelor's + 40	.0			0
Master's Degree	12.5			3
Bachelor's + 60 Sem. Hrs., Including Master's	4.2			1
Bachelor's + 75 Sem. Hrs., Including Master's	16.7			4
Bachelor's + 90 Sem. Hrs., Including Master's	41.7			10
Ph.D., Ed.D., or Juris Doctor	25.0			6

Table 2 (Continued)

	%	$\bar{X}$	SD	n
Age		46.36	5.58	25
Years of Teaching Experience		17.12	7.45	25
Years in Present Position		3.96	4.40	27
Years at Present School		3.22	3.77	6
Years in School District		13.17	7.03	6
Number of Semester Hours in the Last Year		7.28	10.50	23
Number of Inservice Credits in the Last Year		3.22	2.09	23
Years Ago That Most Recent Degree Was Awarded		12.79	8.27	24
Satisfaction with Position		4.58	.50	24
Satisfaction with Teaching as a Career		4.46	.72	24
Attitude Toward Standards-Based Education		4.17	.78	23

Table 3

Factor Loadings, Fit Values, and Logit Item Difficulty for School Culture Scale Subscales

Item	Factor Loading 1	2	3	Scale-Item Fit	Logit Difficulty
1			.58	3 1.0	-.03
2			.57	3 1.2	1.06
3			.75	3 1.1	.81
4			.80	3 .7	.17
5			.66	3 .8	-.52
6		.55	.50	2 1.2	-.84
7[a]		.54			
8	.45		.46	3 1.1	-.51
9		.54		2 1.2	.89
10		.67		2 1.1	-1.28
11	.51		.45	3 1.0	-.97
12[b]		.39			
13		.64		2 1.0	.69
14[b]	.37	.39			
15		.58		2 1.0	.39
16		.76		2 .7	-.04
17		.73		2 .9	.32
18	.66			1 1.0	.15
19	.65			1 1.0	.67
20	.48	.54		2 1.0	-.14
21	.59			1 1.1	-.35
22	.71			1 .9	-.32
23[b]		.32			
24	.63			1 1.0	-.10
25	.61			1 1.0	.42
26	.56			1 1.3	.45
27	.72			1 .9	-.46
28	.68			1 .9	.21
29	.70			1 .7	-.67

Reliability of Person Separation: Scale 1--.91; Scale 2--.90; Scale 3--.83

[a]Misfit in Rasch analysis.

[b]Failed to load or crossloaded in factor analysis.

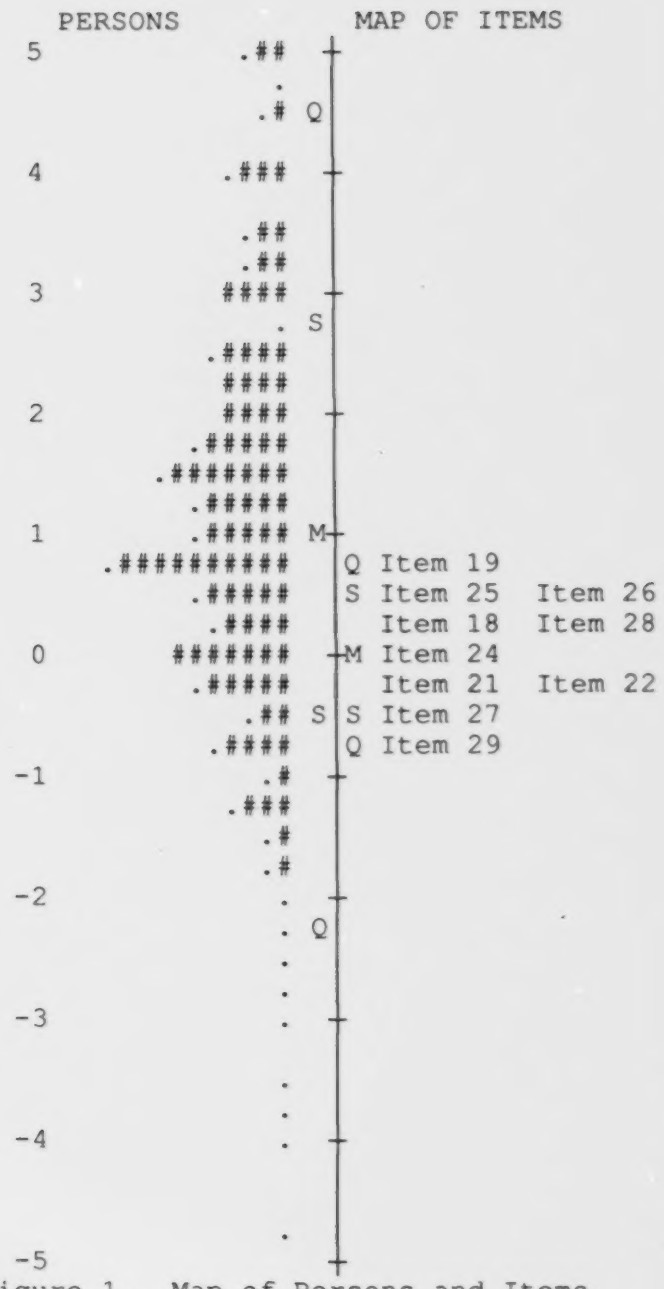

Figure 1. Map of Persons and Items

Table 4

Mean, Standard Deviation, Skewness, and Kurtosis for the School Culture Survey

	Subscale I Teacher Professionalism	Subscale II Treatment of Teachers	Subscale III Teacher Collaboration
$\bar{X}$•	.98	.92	.40
SD	1.76	1.45	1.24
Skewness	.06	-.31	.16
Kurtosis	.65	1.42	1.25

• Means are expressed in logits.

Table 5

Correlations Among Subscales of the School Culture Survey

	Subscale II Administrator Professional Treatment of Teachers		Subscale III Teacher Collaboration	
	r	n	r	n
Subscale I Teacher Professionalism	.71***	450	.61***	450
Subscale II Administrator Professional Treatment of Teachers			.51***	451

***p < .001

Table 6

Correlations Between School Culture Subscales and Teacher Efficacy, Empowerment, and Conceptual Level

	Subscale I Teacher Professionalism		Subscale II Administrator Professional Treatment of Teachers		Subscale III Teacher Collaboration	
	r	p	r	p	r	p
Teacher Efficacy Scale						
Personal Teaching Efficacy	.19	.001***	.13	.006**	.17	.001***
Teaching Efficacy	.07	.13	.15	.001***	.06	.19

** $p < .01$
***$p < .001$

Table 6 (Continued)

	Subscale I Teacher Professionalism		Subscale II Administrator Professional Treatment of Teachers		Subscale III Teacher Collaboration	
	r	p	r	p	r	p
Vincenz Empowerment Scale						
Potency Scale	.17	.001***	.19	.001***	.13	.005**
Independence Scale	.18	.001***	.17	.001***	.10	.03*
Relatedness Scale	.26	.001***	.21	.001***	.28	.001***
Motivation Scale	.15	.003**	.18	.001***	.13	.01**
Values Scale	.08	.10	.07	.18	-.01	.86
Joy of Life Scale	.14	.003**	.14	.004**	.13	.006**
Total Empowerment Score	.22	.001***	.22	.001***	.18	.001***

Note. The n for correlations ranged from 420 to 422.

Table 6 (Continued)

	Subscale I Teacher Professionalism		Subscale II Administrator Professional Treatment of Teachers		Subscale III Teacher Collaboration	
	r	p	r	p	r	p
Paragraph Completion Method (Conceptual Level)						
R	.01	.87	.02	.72	.03	.50
C	.05	.28	.01	.83	.03	.52
D	.09	.06	.07	.15	.15	.001***
NS	.06	.25	.01	.80	.03	.56
T	.03	.58	.01	.80	.06	.24
X3	.07	.17	.02	.71	.07	.17

Note. The n for correlations ranged from 420 to 422.

Note. The letters stand for the following questions:
R = What I think about rules . . . .
C = When I am criticized . . . .
D = When someone does not agree with me . . . .
NS = When I am not sure . . . .
T = When I am told what to do . . . .
X3 = Overall conceptual level score.

Table 7

Multivariate Analyses of Variance for the School Culture Survey

	Subscale I Teacher Professionalism			Subscale II Treatment of Teachers			Subscale III Teacher Collaboration		
	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n
Position									
Teacher	.98	1.80	356	.83	1.47	357	.38	1.27	357
Administr.	1.00	1.81	24	1.31	1.36	24	.27	.90	24
Specialist	.97	1.40	63	1.29	1.24	64	.58	1.80	63
F		.004			3.66			.82	
p		.99			.03*			.44	
	Wilk's Lambda = .96, $p < .01$; Box's M = 18.08, $p > .10$								
Socioeconomic Level									
Low	1.18	1.83	132	1.21	1.51	132	.62	1.15	132
Middle	.47	1.60	144	.50	1.42	145	.18	1.27	145
High	1.29	1.71	143	.98	1.33	143	.44	1.32	143
F		9.52			8.68			1.57	
p		.001***			.001***			.02*	
	Pillai's Trace = .07, $p < .001$; Box's M = 21.63, $p < .05$								
Grouping									
Multiage	.44	1.73	82	.68	1.71	82	.15	1.48	82
Single	1.07	1.78	165	.90	1.38	166	.45	1.13	166
F		6.81			1.31			3.28	
p		.01**			.25			.07	
	Pillai's Trace = .03, $p < .05$; Box's M = 23.69, $p < .001$								

Table 7 (Continued)

	Subscale I Teacher Professionalism			Subscale II Treatment of Teachers			Subscale III Teacher Collaboration		
	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n
Level of School									
Elementary	.93	1.74	347	.90	1.49	348	.42	1.29	348
Middle School	1.49	1.64	48	1.12	.94	48	.58	1.12	48
Senior High	.54	1.99	24	.28	1.52	24	-.17	.85	24
F		2.96			2.06			1.57	
p		.06			.07			.06	
	Pillai's Trace = .03, $p < .05$; Box's M = 30.24, $p > .10$								
Highest Degree									
B.S.	1.09	1.77	153	.81	1.28	153	.42	1.15	153
Master's +	.90	1.72	259	.94	1.53	260	.40	1.31	260
F		1.62			.98			.02	
p		.28			.33			.90	
	NS Multivariate Effect								
Ethnicity									
Caucasian	.94	1.71	393	.89	1.44	394	.39	1.24	394
Other Ethnic Groups	1.32	2.18	27	.88	1.50	27	.61	1.52	27
F		1.20			.00			.78	
p		.27			.97			.38	
	NS Multivariate Effect								

Table 7 (Continued)

	Subscale I Teacher Professionalism			Subscale II Treatment of Teachers			Subscale III Teacher Collaboration		
	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n
Subject Area									
Math/Science	1.38	1.56	23	.71	1.25	23	.49	.83	23
English/ Lang. Arts	1.24	1.36	52	.89	1.26	52	.46	1.13	52
Social Studies	1.74	3.06	10	.98	1.72	10	.66	1.75	10
F		.38			.21			.12	
p		.68			.81			.80	
				NS Multivariate Effect					
Gender									
Male	.76	1.74	43	.71	1.34	43	.03	.81	43
Female	.99	1.75	377	.91	1.46	378	.44	1.30	378
F		.64			.76			4.24	
p		.42			.38			.04*	
				NS Multivariate Effect					

Table 8

Multiple Regression of School Culture Subscales on Experience, Satisfaction, and Education

	Subscale I			Subscale II			Subscale III		
	Beta	t	p	Beta	t	p	Beta	t	p
Set 1 - Experience Variables									
Years of Experience	-.06	-.52	.61	.04	.39	.70	.07	.58	.56
Years in Position	-.03	-.35	.73	-.13	-1.78	.08	-.02	-.30	.76
Age	.13	1.80	.07	.14	1.89	.06	.15	2.01	.05*
Years at School	-.06	-.81	.42	.01	.16	.87	.01	.15	.88
Years in District	-.07	-.63	.53	-.07	-.64	.52	-.20	-1.82	.07
Set 2 - Satisfaction Variables									
Satisfaction with Teaching as a Career	.04	.65	.51	.003	.05	.96	.02	.28	.78
Satisfaction with Position	.22	3.83	.0001	.33	5.96	.0001	.18	3.19	.002
Set 3 - Education Variables									
Year Since Most Recent Degree was Awarded	.04	.72	.47	-.01	-.24	.81	6.46	.001	.99
Semester Hours in Last Year	-.01	-.15	.88	-.02	-.40	.69	-.02	-.46	.65
Inservice Credits in Last Year	-.001	-.02	.98	-.04	-.87	.38	.04	.72	.47

Table 8 (Continued)

	Subscale I			Subscale II			Subscale III		
	Beta	t	p	Beta	t	p	Beta	t	p
R	.28			.35			.24		
R^2	.08			.13			.06		
Adjusted R^2	.05			.10			.03		

Table 9

Multiple Regression for Outcome Variables

	Subscale I Teacher Professionalism			Subscale II Treatment of Teachers			Subscale III Teacher Collaboration		
	Beta	t	p	Beta	t	p	Beta	t	p
Teacher Efficacy Scale									
Personal Teaching Efficacy	.17	3.37	.0006	.10	2.08	.04	.15	3.20	.002
Teaching Efficacy	.02	.43	.67	.10	2.02	.05	.03	.57	.57
Hunt Paragraph Completion Method									
R	-.01	-.20	.84	.03	.49	.63	.06	1.04	.30
C	.05	.89	.38	.03	.55	.58	.05	.97	.33
D	.06	.90	.37	.09	1.38	.17	.17	2.83	.005
NS	.002	.04	.97	-.01	-.10	.92	.03	.56	.57
T	-.07	-1.14	.25	-.04	-.58	.56	.04	.69	.49
X3	.02	.15	.88	-.08	-.73	.47	-.17	-1.50	.13
Vincenz Empowerment Scale									
Relatedness	.23	3.75	.0002	.15	2.51	.02	.31	5.30	.0001

Table 9 (Continued)

	Subscale I Teacher Professionalism			Subscale II Treatment of Teachers			Subscale III Teacher Collaboration		
	Beta	t	p	Beta	t	p	Beta	t	p
Potency	-.03	-.39	.70	.05	.62	.54	-.005	-.06	.95
Independence	.09	1.21	.23	.02	.30	.77	-.04	-.57	.57
Motivation	-.01	-.08	.94	.07	1.25	.21	.04	.78	.44
Values	-.05	-.99	.33	-.08	-1.4	.15	-.15	-2.87	.004
Joy of Life	-.02	-.30	.76	-.01	-.24	.81	-.03	-.56	.58
R	.33			.30			.38		
R^2	.11			.09			.14		
Adjusted R^2	.08			.06			.11		

Note. The letters on the *Hunt Paragraph Completion Method* stand for the following questions:
R = What I think about rules . . . .
C = When I am criticized . . . .
D = When someone does not agree with me . . . .
NS = When I am not sure . . . .
T = When I am told what to do . . . .
X3 = Overall conceptual level score.